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CLAIMS:

What is claimed is:

1. A method for profiling an application in a data processing system, the method comprising:

detecting execution of an instruction associated with an indicator, wherein the instruction is located in a routine;

determining whether the instruction has been executed more often than a threshold value; and

responsive to the instruction having been executed more often than the threshold value, generating an interrupt to pass control to a monitoring program, wherein the monitoring program identifies information regarding a caller of a routine.

2. The method of claim 1 further comprising:

examining a call stack upon generation of the interrupt; and

identifying a caller of the routine from an examination of the call stack.

3. The method of claim 1, wherein the information includes at least one of a caller of the routine and a number of instructions executed in the routine.

4. The method of claim 1 further comprising:

generating a call graph from the information.

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5.   The method of claim 1 further comprising:

selecting the caller of the routine for analysis based on the information gathered by the monitoring program.

6.   A data processing system for profiling an application in a data processing system, the data processing system comprising:

detecting means for detecting execution of an instruction associated with an indicator, wherein the instruction is located in a routine;

determining means for determining whether the instruction has been executed more often than a threshold value; and

generating means, responsive to the instruction having been executed more often than the threshold value, for generating an interrupt to pass control to a monitoring program, wherein the monitoring program identifies information regarding a caller of a routine.

7.   The data processing system of claim 6 further comprising:

examining means for examining a call stack upon generation of the interrupt; and

identifying means for identifying a caller of the routine from an examination of the call stack.

8.   The data processing system of claim 6, wherein the information includes at least one of a caller of the

routine and a number of instructions executed in the routine.

9.   The data processing system of claim 6, wherein the generating means is a first generating means and further comprising:

second generating means for generating a call graph from the information.

10.   The data processing system of claim 6 further comprising:

selecting means for selecting the caller of the routine for analysis based on the information gathered by the monitoring program.

11.   A computer program product in a computer readable medium for profiling an application in a data processing system, the computer program product comprising:

first instructions for detecting execution of an instruction associated with an indicator, wherein the instruction is located in a routine;

second instructions for determining whether the instruction has been executed more often than a threshold value; and

third instructions, responsive to the instruction having been executed more often than the threshold value, for generating an interrupt to pass control to a monitoring program, wherein the monitoring program identifies information regarding a caller of a routine.

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12. The computer program product of claim 11 further comprising:

fourth instructions for examining a call stack upon generation of the interrupt; and

fifth instructions for identifying a caller of the routine from an examination of the call stack.

13. The computer program product of claim 11, wherein the information includes at least one of a caller of the routine and a number of instructions executed in the routine.

14. The computer program product of claim 11 further comprising:

fourth instructions for generating a call graph from the information.

15. The computer program product of claim 11 further comprising:

fourth instructions for selecting the caller of the routine for analysis based on the information gathered by the monitoring program.